

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently amended) A method for synthesizing carbon nanostructures comprising:
providing a substrate having a deposition mask;
depositing a bimetallic or trimetallic metalorganic layer on the substrate, wherein at least a portion of the metalorganic layer is deposited on an unmasked portion of the substrate;
removing the deposition mask from the substrate;
exposing said portion of the metalorganic layer to air;
volatilizing the organic portion of said portion of the metalorganic layer; and
~~oxidizing said portion of the metalorganic layer deposited on an unmasked portion of the substrate to form a growth catalyst on the substrate; and~~
exposing the substrate to a carbon precursor gas at a deposition temperature to form carbon nanostructures.
2. (Currently amended) The method of claim 1, wherein the metalorganic layer is ~~composed of selected from the group consisting of:~~ iron phthalocyanine, molybdenum phthalocyanine, nickel phthalocyanine, copper phthalocyanine, and combinations thereof.
3. (Original) The method of claim 1, wherein the metalorganic layer is deposited by a physical vapor deposition process.
4. (Original) The method of claim 1, wherein the deposited metalorganic layer has a thickness of between about 1 micron and about 30 microns.

5. (Original) The method of claim 1, wherein the deposition mask is composed of a metal oxide.
6. (Original) The method of claim 1, wherein the deposition mask is composed of a substance selected from the group consisting of silicon oxide and aluminum oxide.
7. (Original) The method of claim 1, wherein the unmasked portion of the substrate has a top surface composed of a metal oxide.
8. (Original) The method of claim 7, wherein the metal oxide is selected from the group consisting of silicon oxide, aluminum oxide, and magnesium oxide.
9. (Currently amended) The method of claim 1, wherein the organic portion of said portion of the metalorganic layer is volatilized by heating said portion of the metalorganic layer to oxidizing said portion of the metalorganic layer deposited on an unmasked portion of the substrate comprises exposing said portion of the metalorganic layer to an oxygenated atmosphere at a temperature of between about 450°C and about 500°C.
10. (Currently amended) The method of claim 1, wherein said portion of the metalorganic layer is exposed to air ~~the oxygenated atmosphere~~ for between about 2 hours to about 4 hours.
11. (Original) The method of claim 1, wherein the growth catalyst comprises metal growth catalyst particles.
12. (Original) The method of claim 1, wherein the carbon precursor gas is methane.
13. (Original) The method of claim 1, wherein exposing the substrate to a carbon precursor gas comprises exposing the substrate to an atmosphere containing methane, argon, and hydrogen.
14. (Original) The method of claim 13, wherein the substrate is exposed to the carbon precursor gas for between about 15 minutes and about 60 minutes.
15. (Original) The method of claim 1, wherein the deposition temperature is about 700°C.

16. (Original) The method of claim 1, wherein the metalorganic substance is purified prior to deposition of the metalorganic layer.
17. (Currently amended) The method of claim 1, wherein the exposing said portion oxidizing said portion of the metalorganic layer to air is performed prior to removing the deposition mask from the substrate.
18. (Original) The method of claim 1, wherein said carbon nanostructures are single wall carbon nanotubes.
19. (Original) The method of claim 1, wherein said carbon nanostructures are one dimensional carbon nanostructures.
- 20-42 (Canceled).